AUTHOR INDEX

Aichelin, J., "Quantum" molecular dynamics—a dynamical microscopic n-body approach to investigate fragment formation and the nuclear equation of state in heavy ion collisions 202 (1991) 233
Akhiezer, A.I., V.I. Truten' and N.F. Shul'ga, Dynamic chaos in the motion of charged particles through a crystal 203 (1991) 289
Akhiezer, I.A. and D.P. Belozorov, Some aspects of the theory of spin glasses and disordered ferromagnets 204 (1991) 253
Armour, E.A.G. and J.W. Humberston, Methods and programs in collisions of positrons with atoms and molecules 204 (1991) 165

Baker, M., J.S. Ball and F. Zachariasen, Dual QCD: a review 209 (1991) 73
Ball, J.S., *see* M. Baker 209 (1991) 73
Bates, R.H.T., V.A. Smith and R.D. Murch, Manageable multidimensional inverse scattering theory 201 (1991) 185
Belozorov, D.P., *see* I.A. Akhiezer 204 (1991) 253
Bertulani, C.A., *see* M.S. Hussein 201 (1991) 279
Bhattacharya, D. and E.P.J. van den Heuvel, Formation and evolution of binary and millisecond radio pulsars 203 (1991) 1
Birmingham, D., M. Blau, M. Rakowski, G. Thompson, Topological field theory 209 (1991) 129
Blau, M., *see* D. Birmingham 209 (1991) 129
Bonetti, R., M.B. Chadwick, P.E. Hodgson, B.V. Carlson and M.S. Hussein, The Feshbach–Kerman–Koonin multistep compound reaction theory 202 (1991) 171
Brom, H.B., *see* M.P.J. van Staveren 208 (1991) 1

Cacelli, I., V. Carravetta, A. Rizzo and R. Moccia, The calculation of photoionisation cross sections of simple polyatomic molecules by L^2 methods 205 (1991) 283
Carlson, B.V., *see* R. Bonetti 202 (1991) 171
Carravetta, V., *see* I. Cacelli 205 (1991) 283
Chadwick, M.B., *see* R. Bonetti 202 (1991) 171
Chang, C.T., Pellet–plasma interactions in tokamaks 206 (1991) 143
Clegg, T.B., *see* R.L. Varner 201 (1991) 57
Cocke, C.L. and R.E. Olsen, Recoil ions 205 (1991) 153
Cowan, J.J., F.-K. Thielemann, J.W. Truran, The r-process and nuclear chronology 208 (1991) 267

De Boer, E., Auditory physics. Physical principles in hearing theory. III 203 (1991) 125
De Jongh, L.J., *see* M.P.J. van Staveren 208 (1991) 1
De Pater, I., The significance of microwave observations for the planets 200 (1991) 1
Dearborn, D.S.P., Diagnostics of stellar evolution: the oxygen isotopes 210 (1992) 367
Decker, K.M., ed., Parallel architectures and applications. Proceedings of the 3rd Graduate Summer Course on Computational Physics, Crêt-Bérard, Puidoux, Switzerland, 3–7 September 1990 207 (1991) 137
Dolinsky, S.I., V.P. Druzhinin, M.S. Dubrovin, V.B. Golubev, V.N. Ivanchenko, E.V. Pakhtusova, A.N. Peryshkin, S.I. Serednyakov, Yu.M. Shatunov, V.A. Sidorov and A.N. Skrinsky, Summary of experiments with the Neutral Detector at the e^+e^- storage ring VEPP-2M 202 (1991) 99

Domcke, W., Theory of resonance and threshold effects in electron–molecule collisions: the projection operator approach 208 (1991) 97
Druzhinin, V.P., *see* S.I. Dolinsky 202 (1991) 99
Dubrovin, M.S., *see* S.I. Dolinsky 202 (1991) 99

Eberly, J.H., J. Javanainen and K. Rzążewski, Above-threshold ionization 204 (1991) 331

Fainshtein, A.G., N.L. Manakov, V.D. Ovsiannikov, L.P. Rapoport, Nonlinear susceptibilities and light scattering on free atoms 210 (1992) 111
Fritsch, W. and C.D. Lin, The semiclassical close-coupling description of atomic collisions: recent developments and results 202 (1991) 1

Gallagher, T.F., Resonant collisional energy transfer between Rydberg atoms 210 (1992) 319
García-Moliner, F. and V.R. Velasco, Matching methods for single and multiple interfaces: discrete and continuous media 200 (1991) 83
Goldman, T., *see* M.M. Nieto 205 (1991) 221
Golubev, V.B., *see* S.I. Dolinsky 202 (1991) 99
Gray, S.K., *see* R. Roy 205 (1991) 109
Grochmalicki, J., M. Lewenstein, Are squeezed states necessary? A case study of photon detection based on quantum interference 208 (1991) 189
Gromes, D., *see* W. Lucha 200 (1991) 127
Gronkowski, J., Propagation of X-rays in distorted crystals under dynamical diffraction 206 (1991) 1

Harding, A.K., The physics of gamma-ray bursts 206 (1991) 327
Hodgson, P.E., *see* R. Bonetti 202 (1991) 171
Hofsäss, H. and G. Lindner, Emission channeling and blocking 201 (1991) 121
Home, D., M.A.B. Whitaker, Ensemble interpretations of quantum mechanics. A modern perspective 210 (1992) 223
Humberston, J.W., *see* E.A.G. Armour 204 (1991) 165
Hussein, M.S., R.A. Rego and C.A. Bertulani, Microscopic theory of the total reaction cross section and application to stable and exotic nuclei 201 (1991) 279
Hussein, M.S., *see* R. Bonetti 202 (1991) 171

Ivanchenko, V.N., *see* S.I. Dolinsky 202 (1991) 99

Javanainen, J., *see* J.H. Eberly 204 (1991) 331
Jensen, R.V., S.M. Susskind and M.M. Sanders, Chaotic ionization of highly excited hydrogen atoms: comparison of classical and quantum theory with experiment 201 (1991) 1

Kay, B.S. and R.M. Wald, Theorems on the uniqueness and thermal properties of stationary, nonsingular, quasifree states on spacetimes with a bifurcate Killing horizon 207 (1991) 49
Knoester, J. and S. Mukamel, Transient gratings, four-wave mixing and polariton effects in nonlinear optics 205 (1991) 1
Kröger, H., Time-dependent methods in scattering theory 210 (1992) 45
Kull, H.J., Theory of the Rayleigh–Taylor instability 206 (1991) 197

Lequeux, J. and E. Roueff, Interstellar molecules 200 (1991) 241
Lewenstein, M., *see* J. Grochmalicki 208 (1991) 189
Lin, C.D., *see* W. Fritsch 202 (1991) 1

Lindner, G., *see* H. Hofsäss 201 (1991) 121
Lucha, W., F.F. Schöberl and D. Gromes, Bound states of quarks 200 (1991) 127
Ludwig, E.J., *see* R.L. Varner 201 (1991) 57
L'vov, V.S., Scale invariant theory of fully developed hydrodynamic turbulence—Hamiltonian approach 207 (1991) 1

Manakov, N.L., *see* A.G. Fainshtein 210 (1992) 111
Mangano, M.L. and S.J. Parke, Multi-parton amplitudes in gauge theories 200 (1991) 301
McAbee, T.L., *see* R.L. Varner 201 (1991) 57
Mel'nikov, V.I., The Kramers problem: fifty years of development 209 (1991) 1
Moccia, R., *see* I. Cacelli 205 (1991) 283
Moore, D.J., The calculation of non-adiabatic Berry phases 210 (1991) 1
Mukamel, S., *see* J. Knoester 205 (1991) 1
Murch, R.D., *see* R.H.T. Bates 201 (1991) 185

Nieto, M.M. and T. Goldman, The arguments against "antigravity" and the gravitational acceleration of antimatter 205 (1991) 221
Noid, D.W., *see* R. Roy 205 (1991) 109

Olsen, R.E., *see* C.L. Cocke 205 (1991) 153
Osad'ko, I.S., Optical dephasing and homogeneous optical bands in crystals and amorphous solids: dynamic and stochastic approaches 206 (1991) 43
Ovsiannikov, V.D., *see* A.G. Fainshtein 210 (1992) 111

Pakhtusova, E.V., *see* S.I. Dolinsky 202 (1991) 99
Park, S.H., *see* B. Rosenstein 205 (1991) 59
Parke, S.J., *see* M.L. Mangano 200 (1991) 301
Peryshkin, A.N., *see* S.I. Dolinsky 202 (1991) 99
Pfeffer, G.A., *see* R. Roy 205 (1991) 109
Pizzochero, P.M., The theory of supernova shocks: an analytical approach 206 (1991) 99

Rakowski, M., *see* D. Birmingham 209 (1991) 129
Rapoport, L.P., *see* A.G. Fainshtein 210 (1992) 111
Reeves, H., Big-bang nucleosynthesis and the quark–hadron phase transition 201 (1991) 335
Rego, R.A., *see* M.S. Hussein 201 (1991) 279
Rizzo, A., *see* I. Cacelli 205 (1991) 283
Rosenstein, B., B.J. Warr and S.H. Park, Dynamical symmetry breaking in four-fermion interaction models 205 (1991) 59
Roueff, E., *see* J. Lequeux 200 (1991) 241
Roy, R., B.G. Sumpter, G.A. Pfeffer, S.K. Gray and D.W. Noid, Novel methods for spectral analysis 205 (1991) 109
Rzążewski, K., *see* J.H. Eberly 204 (1991) 331

Sanders, M.M., *see* R.V. Jensen 201 (1991) 1
Schöberl, F.F., *see* W. Lucha 200 (1991) 127
Serednyakov, S.I., *see* S.I. Dolinsky 202 (1991) 99
Shatunov, Yu.M., *see* S.I. Dolinsky 202 (1991) 99
Shifman, M.A., Anomalies in gauge theories 209 (1991) 341
Shrivastava, K.N., Magnetic resonance in high-temperature superconductors 200 (1991) 51

Shul'ga, N.F., *see* A.I. Akhiezer 203 (1991) 289
Sidorov, V.A., *see* S.I. Dolinsky 202 (1991) 99
Singh, Y., Density functional theory of freezing and properties of the ordered phase 207 (1991) 351
Skrinsky, A.N., *see* S.I. Dolinsky 202 (1991) 99
Smith, V.A., *see* R.H.T. Bates 201 (1991) 185
Steinberger, J., First results at the LEP e^+e^- collider 203 (1991) 345
Suhm, M.A. and R.O. Watts, Quantum Monte Carlo studies of vibrational states in molecules and clusters 204 (1991) 293
Sumpter, B.G., *see* R. Roy 205 (1991) 109
Susskind, S.M., *see* R.V. Jensen 201 (1991) 1

Thielemann, F.-K., *see* J.J. Cowan 208 (1991) 267
Thompson, G., *see* D. Birmingham 209 (1991) 129
Thompson, W.J., *see* R.L. Varner 201 (1991) 57
Truran, J.W., *see* J.J. Cowan 208 (1991) 267
Truten', V.I., *see* A.I. Akhiezer 203 (1991) 289

Valin, P., Theoretical unitarity bounds, theorems and scalings for the strong interactions at high energies 203 (1991) 233
Van den Bergh, S., Supernova rates: a progress report 204 (1991) 385
Van den Heuvel, E.P.J., *see* D. Bhattacharya 203 (1991) 1
Van Staveren, M.P.J., H.B. Brom and L.J. de Jongh, Metal cluster compounds and universal features of the hopping conductivity of solids 208 (1991) 1
Varner, R.L., W.J. Thompson, T.L. McAbee, E.J. Ludwig and T.B. Clegg, A global nucleon optical model potential 201 (1991) 57
Velasco, V.R., *see* F. García-Moliner 200 (1991) 83

Wald, R.M., *see* B.S. Kay 207 (1991) 49
Warr, B.J., *see* B. Rosenstein 205 (1991) 59
Watts, R.O., *see* M.A. Suhm 204 (1991) 293
Weidlich, W., Physics and social science – the approach of synergetics 204 (1991) 1
Whitaker, M.A.B., *see* D. Home 210 (1992) 223

Yukalov, V.I., Phase transitions and heterophase fluctuations 208 (1991) 395

Zachariasen, F., *see* M. Baker 209 (1991) 73

SUBJECT INDEX

General

Manageable multidimensional inverse scattering theory, R.H.T. Bates, V.A. Smith and R.D. Murch 201 (1991) 185
Novel methods for spectral analysis, R. Roy, B.G. Sumpter, G.A. Pfeffer, S.K. Gray and D.W. Noid 205 (1991) 109
The arguments against "antigravity" and the gravitational acceleration of antimatter, M.M. Nieto and T. Goldman 205 (1991) 221
Theorems on the uniqueness and thermal properties of stationary, nonsingular, quasifree states on spacetimes with a bifurcate Killing horizon, B.S. Kay and R.M. Wald 207 (1991) 49
Parallel architectures and applications. Proceedings of the 3rd Graduate Summer Course on Computational Physics, Crêt-Bérard, Puidoux, Switzerland, 3–7 September 1990, K.M. Decker, ed. 207 (1991) 137
The Kramers problem: fifty years of development, V.I. Mel'nikov 209 (1991) 1
The calculation of non-adiabatic Berry phases, D.J. Moore 210 (1991) 1
Ensemble interpretations of quantum mechanics. A modern perspective, D. Home, M.A.B. Whitaker 210 (1992) 223

The physics of elementary particles and fields

Big-bang nucleosynthesis and the quark–hadron phase transition, H. Reeves 201 (1991) 335
Summary of experiments with the Neutral Detector at the e^+e^- storage ring VEPP-2M, S.I. Dolinsky, V.P. Druzhinin, M.S. Dubrovin, V.B. Golubev, V.N. Ivanchenko, E.V. Pakhtusova, A.N. Peryshkin, S.I. Serednyakov, Yu.M. Shatunov, V.A. Sidorov and A.N. Skrinsky 202 (1991) 99
Theoretical unitarity bounds, theorems and scalings for the strong interactions at high energies, P. Valin 203 (1991) 233
First results at the LEP e^+e^- collider, J. Steinberger 203 (1991) 345
Dynamical symmetry breaking in four-fermion interaction models, B. Rosenstein, B.J. Warr and S.H. Park 205 (1991) 59
Dual QCD: a review, M. Baker, J.S. Ball and F. Zachariasen 209 (1991) 73
Topological field theory, D. Birmingham, M. Blau, M. Rakowski, G. Thompson 209 (1991) 129
Anomalies in gauge theories, M.A. Shifman 209 (1991) 341

Nuclear physics

A global nucleon optical model potential, R.L. Varner, W.J. Thompson, T.L. McAbee, E.J. Ludwig and T.B. Clegg 201 (1991) 57
Microscopic theory of the total reaction cross section and application to stable and exotic nuclei, M.S. Hussein, R.A. Rego and C.A. Bertulani 201 (1991) 279
The Feshbach–Kerman–Koonin multistep compound reaction theory, R. Bonetti, M.B. Chadwick, P.E. Hodgson, B.V. Carlson and M.S. Hussein 202 (1991) 171

"Quantum" molecular dynamics—a dynamical microscopic n-body approach to investigate fragment formation and the nuclear equation of state in heavy ion collisions, J. Aichelin 202 (1991) 233
Time-dependent methods in scattering theory, H. Kröger 210 (1992) 45

Atomic and molecular physics

Chaotic ionization of highly excited hydrogen atoms: comparison of classical and quantum theory with experiment, R.V. Jensen, S.M. Susskind and M.M. Sanders 201 (1991) 1
The semiclassical close-coupling description of atomic collisions: recent developments and results, W. Fritsch and C.D. Lin 202 (1991) 1
Methods and programs in collisions of positrons with atoms and molecules, E.A.G. Armour and J.W. Humberston 204 (1991) 165
Quantum Monte Carlo studies of vibrational states in molecules and clusters, M.A. Suhm and R.O. Watts 204 (1991) 293
Above-threshold ionization, J.H. Eberly, J. Javanainen and K. Rzążewski 204 (1991) 331
Recoil ions, C.L. Cocke and R.E. Olsen 205 (1991) 153
The calculation of photoionisation cross sections of simple polyatomic molecules by L^2 methods, I. Cacelli, V. Carravetta, A. Rizzo and R. Moccia 205 (1991) 283
Theory of resonance and threshold effects in electron–molecule collisions: the projection operator approach, W. Domcke 208 (1991) 97
Are squeezed states necessary? A case study of photon detection based on quantum interference, J. Grochmalicki, M. Lewenstein 208 (1991) 189
Time-dependent methods in scattering theory, H. Kröger 210 (1992) 45
Nonlinear susceptibilities and light scattering on free atoms, A.G. Fainshtein, N.L. Manakov, V.D. Ovsiannikov, L.P. Rapoport 210 (1992) 111
Resonant collisional energy transfer between Rydberg atoms, T.F. Gallagher 210 (1992) 319

Classical areas of phenomenology (including applications)

Theory of the Rayleigh–Taylor instability, H.J. Kull 206 (1991) 197
Scale invariant theory of fully developed hydrodynamic turbulence—Hamiltonian approach, V.S. L'vov 207 (1991) 1

Fluids, plasmas and electric discharges

Pellet–plasma interactions in tokamaks, C.T. Chang 206 (1991) 143

Condensed matter: structure, thermal and mechanical properties

Emission channeling and blocking, H. Hofsäss and G. Lindner 201 (1991) 121
Dynamic chaos in the motion of charged particles through a crystal, A.I. Akhiezer, V.I. Truten' and N.F. Shul'ga 203 (1991) 289
Propagation of X-rays in distorted crystals under dynamical diffraction, J. Gronkowski 206 (1991) 1
Density functional theory of freezing and properties of the ordered phase, Y. Singh 207 (1991) 351
Phase transitions and heterophase fluctuations, V.I. Yukalov 208 (1991) 395

Condensed matter: electronic structure, electrical, magnetic and optical properties

Some aspects of the theory of spin glasses and disordered ferromagnets, I.A. Akhiezer and D.P. Belozorov 204 (1991) 253
Transient gratings, four-wave mixing and polariton effects in nonlinear optics, J. Knoester and S. Mukamel 205 (1991) 1
Optical dephasing and homogeneous optical bands in crystals and amorphous solids: dynamic and stochastic approaches, I.S. Osad'ko 206 (1991) 43
Metal cluster compounds and universal features of the hopping conductivity of solids, M.P.J. van Staveren, H.B. Brom and L.J. de Jongh 208 (1991) 1
The Kramers problem: fifty years of development, V.I. Mel'nikov 209 (1991) 1

Cross-disciplinary physics and related areas of science and technology

Auditory physics. Physical principles in hearing theory. III, E. de Boer 203 (1991) 125
Physics and social science – the approach of synergetics, W. Weidlich 204 (1991) 1

Geophysics, astronomy and astrophysics

Big-bang nucleosynthesis and the quark–hadron phase transition, H. Reeves 201 (1991) 335
Formation and evolution of binary and millisecond radio pulsars, D. Bhattacharya and E.P.J. van den Heuvel 203 (1991) 1
Supernova rates: a progress report, S. Van den Bergh 204 (1991) 385
The theory of supernova shocks: an analytical approach, P.M. Pizzochero 206 (1991) 99
The physics of gamma-ray bursts, A.K. Harding 206 (1991) 327
The r-process and nuclear chronology, J.J. Cowan, F.-K. Thielemann, J.W. Truran 208 (1991) 267
Diagnostics of stellar evolution: the oxygen isotopes, D.S.P. Dearborn 210 (1992) 367